

# PostScript

## LETTERS

### Intracranial placement of nasopharyngeal airways: is it all that rare?

In their recent review on nasopharyngeal airways (NPA), Roberts *et al*<sup>1</sup> mention that the “evidence for avoiding NPAs in case of basal skull fracture is based solely on two case reports”.<sup>2,3</sup>

This may be true, but how many instances of intracerebral NPA placement occur but are not published? Once a complication has occurred and been reported in a journal, further similar case reports are less likely to be submitted because it is no longer a novel complication.

We recently had another episode of accidental cerebral misplacement of an NPA in a trauma patient who later proved to have a base of skull fracture. The patient was a coach driver who was involved in a head on collision with a low building and sustained severe facial injuries. Extrication proved complicated, and the patient was trapped in the vehicle for approximately 45 min. His GCS was 3/15 when the ambulance service arrived and it was judged that his airway was at risk. The paramedics were unable to open his mouth and took the decision to insert an NPA. The precise method of insertion is not documented.

On arrival in the ED the patient was intubated and ventilated and underwent a CT scan of the brain. This showed multiple facial fractures, including severe disruption to the base of the skull. The NPA was seen to enter the cerebral cortex (fig 1).

We fully agree that airway management takes priority in the emergency situation and such advice is especially relevant in this type of patient when a contraindication to NPA placement (base of skull fracture) cannot be excluded clinically. However, it is also likely that suspected base of skull fracture has led to fewer NPAs being sited in patients with any form of head injury, perhaps leading to substandard airway care.

In some circumstances, NPA placement may be necessary even when there are relative contraindications and we support the author's claim that teaching on NPAs should focus on methods of safe placement. However, we would question the

authors' comment that the complication of intracranial tube placement is “oft quoted but very infrequent”.

D Y Ellis, C Lambert, P Shirley

Intensive Care Department, Royal London Hospital, London, UK

Correspondence to: D Y Ellis, Intensive Care Department, Royal London Hospital, London, UK; danellis@doctors.org.uk

Informed consent was obtained for publication of the person's details in this report

doi: 10.1136/emj.2006.036541

Competing interests: none declared

### References

- 1 Roberts K, Whalley H, Bleetman A. The nasopharyngeal airway: dispelling myths and establishing the facts. *Emerg Med J* 2005;22(6):394–6.
- 2 Schade K, Borzotta A, Michaels A. Intracranial malposition of nasopharyngeal airway. *J Trauma* 2000;49(5):967–8.
- 3 Muzzi DA, Losasso TJ, Cucchiara RF. Complication from a nasopharyngeal airway in a patient with a basilar skull fracture. *Anesthesiology* 1991;74(2):366–8.

### Manoeuvres affecting central venous cannulation

Clenaghan *et al*<sup>1</sup> have demonstrated that Trendelenburg tilt increases the diameter of the internal jugular vein (IJV) in healthy volunteers. This confirms the results of previous studies.<sup>2</sup>

Although the benefits of Trendelenburg tilt are well known, the negative effects of other commonly performed manoeuvres are less well appreciated. Gentle palpation of the carotid artery and neck extension causes significant decreases in IJV size.<sup>2</sup> Textbooks describe the IJV as lying lateral to the carotid artery but ultrasound studies show that it overlies the carotid artery to some degree in 54% of subjects. The degree of overlap increases with head rotation,<sup>3</sup> which may increase the risk of carotid artery puncture, especially if the needle passes through the posterior wall of the IJV.

Carotid artery palpation, neck extension, and head rotation are often used during IJV cannulation. These manoeuvres decrease the target size and potentially increase the risk of failure or complications and should be avoided during IJV cannulation using a landmark technique.

K Janossy, P Jefferson, D Ball

Dumfries & Galloway Royal Infirmary, Dumfries; katej@doctors.org.uk

doi: 10.1136/emj.2006.035188

Competing interests: none declared.

### References

- 1 Clenaghan S, McLaughlin RE, Martyn C, *et al*. Relationship between Trendelenburg tilt and internal jugular vein diameter. *Emerg Med J* 2005;22:867–8.
- 2 Armstrong PJ, Sutherland R, Scott DHT. The effect of position and different manoeuvres on internal

jugular vein diameter size. *Acta Anaesthesiol Scand* 1994;38:229–31.

- 3 Sulek CA, Gravenstein N, Blackshear RH, *et al*. Head rotation during internal jugular vein cannulation and the risk of carotid artery puncture. *Anesth Analg* 1996;82:125–8.

### ATLS secondary survey mnemonic: Has My Critical Care Assessed Patient's Priorities Or Next Management Decision?

Since 1976 ATLS training and implementation has been instrumental in optimising treatment and saving the lives of trauma victims worldwide. Studies have shown that ATLS trained surgeons, anaesthetists, and medical students improve their clinical trauma management skills,<sup>1</sup> attaining a higher number of ATLS key treatment objectives.

On assessing the impact of trauma education in terms of clinical process, retention of skills and knowledge, and the outcome of patients, one study concluded that the generic (ABC) approach of ATLS training is applicable to the care of all critically ill or injured patients and should be taught at junior level.<sup>2</sup>

However, one study of 220 ATLS course graduates showed that physicians lose a significant part of their acquired cognitive knowledge after 3.5 years, that surgeons retain their cognitive knowledge for longer periods of time, and that the optimal time for a refresher course is between 3 and 4 years after the initial ATLS training.<sup>3</sup>

An injury may be missed or its significance may not be recognised in the trauma resuscitation scenario, particularly in the unconscious or unstable patient. The secondary survey “head-to-toe evaluation” starts only after the ABCDE primary survey is complete and the patient responds to resuscitation. In practice, the secondary survey can be haphazard, poorly recorded, and, in the aftermath of a more dramatic initial resuscitation, may be less thorough. There can be a substantial delay between the primary and secondary survey if immediate treatment or surgery is indicated; this discontinuity can compound errors of omission.

**Table 1** Secondary survey mnemonic

Mnemonic	Secondary survey
Has	Head/skull
My	Maxillofacial
Critical	Cervical Spine
Care	Chest
Assessed	Abdomen
Patient's	Pelvis
Priorities	Perineum
Or	Orifices (PR/PV)*
Next	Neurological
Management	Musculoskeletal
Decision?	Diagnostic tests/definitive care

\*Tubes and fingers in every orifice. Include “AMPLE” history.



**Figure 1** CT scan of the brain showing intracranial placement of NPA.

In the hope of avoiding such pitfalls and to focus the doctor's mind both on a systematic approach to the secondary survey and the subsequent management priorities, a simple aide memoire in the style of ATLS teaching is proposed (table 1). The secondary survey includes the "AMPLE" history.

S C A Hughes

Department of Trauma and Orthopaedics, Epsom General Hospital, Dorking Rd, Surrey, KT18 7EG, UK; hughesorthopaedics@hotmail.com

doi: 10.1136/emj.2006.035717

## References

- 1 Kennedy DW, Gentleman D. The ATLS course, a survey of 228 ATLS providers. *Emerg Med J* 2001;18(1):55-8.
- 2 Carley S, Driscoll P. Trauma education. *Resuscitation* 2001;48(1):47-56.
- 3 Blumenfeld A, Ben Abraham R, Stein M, et al. Cognitive knowledge decline after Advanced Trauma Life Support courses. *J Trauma* 1998;44(3):513-6.

## Levofloxacin induced myasthenia crisis

Patients with myasthenia gravis (MG) may suffer a worsening of symptoms upon exposure to a variety of medications. The relationship between MG and medication effects is complex. Some medications (such as penicillamine and  $\alpha$ -interferon) appear to cause MG occasionally, while other drugs (such as aminoglycoside antibiotics and quinine) may lead to MG symptoms by simply unmasking a pre-existing mild case. In patients with known MG, there is a long list of drugs that are reported to be associated with increased weakness.<sup>1</sup> Myasthenic crisis is a life threatening situation in which the weakness arising from MG is severe enough to cause respiratory failure necessitating intubation.<sup>2</sup> This case report describes the development of myasthenic crisis and respiratory depression following the use of levofloxacin in a patient with no previous diagnosis of MG.

A 45 year old male patient was diagnosed with atypical pneumonia at the emergency department (ED) to which he presented with a complaint of coughing and expectoration, and was given a prescription for levofloxacin. He re-presented with severe respiratory difficulty 36 hours after commencing the medication. He was attached to a mechanical ventilator and intubated in the ED with a diagnosis of severe respiratory insufficiency. With the patient's tensilon test result proving positive and a decremental response shown on electromyogram, he was diagnosed with MG. Thymoma was determined using computed tomography, and thymectomy performed. Pridostigmine and steroid treatment was initiated. He was removed from the ventilator on the third day and discharged in a healthy condition on the 10th day.

Fluoroquinolones are widely used antibiotics, and have relatively few side effects. The most common adverse reactions are nausea, abdominal discomfort, headache, and dizziness. Rarely, hallucinations, delirium, and seizures have occurred. There are reports of the exacerbation of MG by ciprofloxacin, norfloxacin, and penfloxacin, ofloxacin, and trovafloxacin.<sup>3,4</sup> The occurrence of increased myasthenic weakness shortly after the start of fluoroquinolone treatment and the rapid improvement after withdrawal of the antibiotic in each reported case are consistent with a fluoroquinolone block of neuromuscular transmission.

Fluoroquinolones reduce the amplitude of the miniature endplate potentials.<sup>4</sup>

Although similar effects of fluoroquinolones have been reported previously, no case involving levofloxacin, which is prescribed on a widespread basis, has been reported. This case shows that, like other quinolones, levofloxacin may also have a symptom triggering effect in subclinical MG and may even lead to myasthenic crises.

A Gunduz, S Turedi, A Kalkan

Department of Emergency Medicine, Faculty of Medicine, Karadeniz Technical University, Trabzon, Turkey

I Nuhoglu

Department of Internal Medicine, Faculty of Medicine, Karadeniz Technical University, Trabzon, Turkey

Correspondence to: Dr S Turedi, Karadeniz Teknik Üniversitesi, Tıp Fakültesi Farabi Hastanesi, Acil Tıp Anabilim Dalı, 61080 Trabzon/Turkey; suleyman-turedi@hotmail.com

doi: 10.1136/emj.2006.038091

Accepted for publication 5 May 2006

Competing interests: there are no competing interests

## REFERENCES

- 1 Myasthenia Gravis Foundation of America. *Medication and myasthenia gravis*, www.myasthenia.org/drugs/reference.htm. Accessed 28 April 2006.
- 2 Panda S, Goyal V, Behari M, et al. Myasthenic crisis: A retrospective study. *Neural India* 2004;52:453-456.
- 3 Murray CK, Wortmann GW. Trovafloxacin-induced weakness due to a demyelinating polyneuropathy. 2000;93:514-5.
- 4 Sieb JP. Fluoroquinolone antibiotics block neuromuscular transmission. *Neurology* 1998;50:804-7.

## Could lack of necessary equipment and training to manage common paediatric emergencies within primary healthcare centres impact on secondary healthcare services?

Front line paramedics in the UK lack emergency paediatric equipment and skills.<sup>1</sup> However, comparative assessments within primary healthcare centres have not been forthcoming, despite their potential propensity for paediatric emergencies and need for resuscitation drugs.<sup>2</sup> Indeed, within our locality, East Midlands ambulances were summoned to 27 paediatric emergencies in the same centres surveyed in the preceding year. Moreover, in over 90% of cases paramedics needed to instigate further treatment, primarily for paediatric airway and breathing emergencies, including suspected anaphylaxis, asthma, croup, and pneumonia.

We ascertained the availability and accessibility of basic equipment for managing the paediatric airway and breathing, circulation, and potential drugs for common paediatric emergencies, using an e-mail questionnaire to all 27 primary health care centres within the Nottingham city region. Within practices, children aged 0-16 years comprised a median 25.5% of the total patient number (median 4600, range 1560 to 12 093). No practice had all 21 basic resuscitation items, with 59% of practices having  $\leq 10$  of these items. Indeed, 52% of practices had  $\leq 4$  basic airway and breathing items, 82% of practices had  $\leq 4$

basic circulatory items, and 85% of practices had  $\leq 4$  basic drug items. Only two practices had external defibrillators with paediatric paddles, and only one practice had a pulse oximeter. Only 30% of practices had algorithms for basic life support and common emergencies, and kept their equipment together. Only 17.5% of GPs had been trained in paediatric resuscitation in the past 5 years.

In conclusion, we have shown that primary healthcare centres lack the basic resuscitation equipment and skills to manage common paediatric emergencies. In order to improve the preparedness of these centres, we need to: (a) standardise locally available basic resuscitation equipment, (b) assess and train all necessary personnel, and (c) ascertain the occurrence of critical incidents through a local and national database.

M G Gnanalingham, G Harris, E Didcock

Department of Community Paediatrics, Strelley Health Centre, Nottingham NG8 6LN, UK

Correspondence to: Dr M G Gnanalingham, Academic Division of Child Health, School of Human Development, University Hospital, Queen's Medical Centre, Nottingham NG7 2UH, UK; molingham@doctors.org.uk

doi: 10.1136/emj.2005.033902

Accepted for publication 20 April 2006

Competing interests: there are no competing interests

## REFERENCES

- 1 Roberts K, Jewkes F, Whalley H, et al. A review of emergency equipment carried and procedures performed by UK front line paramedics on paediatric patients. *Emerg Med J* 2005;22:572-6.
- 2 Anonymous. Drugs for the doctor's bag: 2 - children. *Drugs Ther Bull* 2005;43:81-4.

## BOOK REVIEW

### Cope's early diagnosis of the acute abdomen, 21st ed

Z Cope, revised by W Silen. Oxford: Oxford University Press, 2005, £35.99. ISBN 0-19-517546-8

This classic textbook was first published in 1921. It comes around as regularly as the Olympic Games and as reliably as the full moon.

Why is it so good? Its emphasis is on clinical and not laboratory or radiological diagnosis and it does not rely on algorithms, protocols, pathways, or a plethora of long lists to memorise. Its style initially seems old fashioned, and to many eyes it may seem turgid; however, if you stick with it, it grows on you. It becomes very readable.

In our specialty, which tends towards a "rule out" approach to diagnosis and assessment, many will think this book has no place. Nothing can be further from the truth. It should be required reading for all trainees. Consultants who have not read it before will also learn from it.

Including the index, it is 298 pages long. Although the line drawings (which are plentiful) are fine, the radiological illustrations are nothing to write home about. It doesn't matter. It's all in the history and examination, not the investigations. Read it.

G Hughes